"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

GRONYKO, Yevstafiy Alekseyevich; BIRYUKOV, V.K., nauchn. red.

[Marine power plants; lectures] Sudovye silovye ustanovki. sbornik lektsii. Moskva, Transport. No.4. 1964. 155 p. (MIRA 18:1)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.M., inzh.; BYKOV, G.G., inzh.; GOLUBCHIK, S.M., inzh.

Assembly carts. Suggested by V.M.Biriukov, G.G.Bykov, S.M.Golubchik. Rats.i izobr.predl.v stroi. no.13:48-50 '59. (MIRA 13:6)

1. Trest No.1 Stroygaz Gor'kovskogo sovnarkhoza, g. Gor'kiy, 42, ul.Vatutina, d.11.

(Concrete slabs--Transportation)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.M.

Remodeling a device for the regeneration of sulfuric acid. Nefteper. i neftekhim. no.9:34-35 '63. (MIRA 17:8)

1. Novokuybyshevskiy neftepererabatyvayushchiy zavod.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

KARASEV, V.Ya., Geroy Sotsialisticheskogo Truda; TRUTNEV, V.N., tokar'; BIRYUKOV, V.M., tokar'; ZAYCHENKO, P.A., slesar'-instruktor peredovykh metodov truda; SKOROKHNAYA, A.D., red.; MATVEYEV, A.P., tekhn.red.

[Contribution of Soviet innovators to agriculture] Sovet novatorov - sel'skomu khoziaistvu. Moskva, Izd-vo "Sovetskaia Rossiia," 1961. 59 p. (MIRA 14:12)

1. Predsedatel' Leningradskogo soveta novatorov (for Karasev). 2. Predsedatel' soveta novatorov zavoda "Bol'shevik" (for Trutnev). 3. Predsedatel' soveta novatorov Leningradskogo metallicheskogo zavoda (for Biryukov). 4. Predsedatel' soveta novatorov Kirovskogo zavoda (for Zaychenko).
(Agriculture)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

ZEMZIN, V.N., kand.tekhn.nauk; SMIRNOVA, I.D., inzh.; GONSEROVSKIY, F.G., inzh.; BIRYUKOV, V.M., inzh.

Welding high-chromium heat-resistant steel for steam turbine parts. Trudy LMZ no.9:159-174 '62. (MIRA 16:6)
(Steel, Heat-resistant--Welding)
(Steam turbines--Design and construction)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.M., inzh.; POPOVA, L.I., tekhnik

Determining the content of liberated hydrogen in hard-faced metal.
[Trudy]LMZ no.11:335-341 '64. (MIRA 17:12)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.M., inzh.

Induction heating and heat treatment of butt welds with a commercial frequency current. [Trudy]LMZ no.11:358-375 '64. (MIRA 17:12)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.M., inzh.; MART'YANOV, G.I.; KALETINA, T.V., inzh.; GRISHCHENKO, L.V., inzh.; FEDOSEYENKO, G.I., inzh.

Welding a high-strength alloy spiral turbine chamber at the Krasnoyarsk Hydro-electric Power Station. [Trudy]LMZ no.11: 189-201 '64. (MIRA 17:12)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.N.

Electric Coils

Repairing the coils of reversing worm screws of dust feeders
Rab. energ. 2no. 9, 1952

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.N.

AID P - 1958

Subject : -USSR/Engineering

Card 1/1 Pub. 29 - 7/25

Author : Biryukov, V. N., Technician

Title : Rolling mill for shells of ball mill vents

Periodical : Energetik, 4, 19-20, Ap 1955

Abstract : The author describes the metal working machinery which replaced a manual operation requiring five workers. One drawing.

Institution: None

Submitted : No date

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRIUKOV, V.P.

BIRIUKOV, V.P. Priroda i naselenie Shadrinskogo okruga Ural'skoi Oblasti. Shadrinsk, Izd.Shadrinskogo Okruzhnogo Ispolnitel'nogo Komiteta, 1926. 210, 8, 113, 3 p.
DLC: Unclassified

SO: LC, Soviet Geography, Part II, 1951, Unclassified

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, Viktor Pavlovich; ZALENSKIY, N.D., red.; NAGIBIN, P.N., tekhn.red.

[Across the Kazakhstan land] Po zemle kazakhstanskoi. Alma-Ata, Kazakhskoe gos.izd-vo, 1959. 185 p. (MIRA 13:9)
(Kazakhstan--Economic conditions)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V. S.

"Armor" (Bronya). Voyenizdat. Moscow, 1954.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.V.

Program setter with a reverse movement of the cam. Priborostroenie no.1:23-24 Ja '62. (MIRA 15:1)
(Automatic control)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.V.

Certain features of batch-operated reactors as objects of temperature control. Khim. prom. no.6:453-457 Je '63. (MIRA 16:8)

(Chemical reactors) (Automatic control)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.V.; KAFAROV, V.V.; Prinimali uchastiye: NOSOV, Yu.I.; DORFMAN, A.D.

Mathematical modeling of vapor-liquid heat exchangers. Khim.prom. no.12:908-914 D '63. (MIRA 17:3)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

ZASLAVSKIY, I.I.; BIRYUKOV, V.V.

Design and calculation of some systems for temperature dontrol in some periodic processes. Khim. prom. no.5:376-381 My '64. (MIRA 17:9)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

ACCESSION NR: AP4033408 S/0076/64/038/003/0740/0741

AUTHOR: Biryukov, V. V.

TITLE: Approximate integration methods of kinetic equations.

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 3, 1964, 740-741

TOPIC TAGS: kinetic equation, analog computer, approximate integration method

ABSTRACT: It was shown that a non-linear kinetic equation for isothermal conditions may be easily solved with the aid of the simplest schemes of modeling for analog computers. The approximate integration method for kinetic equations as studied by M. I. Gorginkel' and M. D. Lindenbaum (Zh. fiz. khimii, 26, 2472, 1962) where the apparent value of the rate constant satisfies the equation $\ln k = p(x) + q$, where k is the apparent value of the rate constant, where p and q are constants, and where x is the number of moles of product. The kinetic equation may be written as follows:

$$\frac{dx}{dt} = \frac{1}{V^{n-1}} e^{p\varphi(x)+q} F(x),$$

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where F(x) is the force of the reaction, m is the order of the reaction, V is the volume of the reaction mixture, and t is time. It was shown that in contrast to the work mentioned, the kinetic equation can be integrated more simply if it is presented in the following form

$$\frac{dx}{dt} = \frac{1}{V^{m-1}}\Phi(x),$$

where

$$\Phi(x) = e^{p\varphi(x)+qF(x)}.$$

The resulting function $\varphi(x)$ may be subjected to segment-linear approximation as shown in Fig. 1. Thus, for each segment of the kinetic curve an approximation equation is written in the form

$$dx/dt = \frac{1}{V^{m-1}} (aiX + Bi)$$

which is integrated by separation of variables. The accuracy of calculation increases with the increase of the number of segments. Thus, an accuracy sufficient for practical use is attained when their number is 4 - 8. It is noted that the presented method permits the integration of the kinetic equation with the aid of analog computers of the type "MN-7" and "IPT-5", etc. Orig. art. has: 2 figures and 6 equations.

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ACCESSION NR: AP4033408

ASSOCIATION: None

SUBMITTED: 07Mar63 ENCL: 01

SUB CODE: MA,GDP NO REF SOV: 001 OTHER: 000

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ACCESSION NR: AP4033408

ENCLOSURE: 01

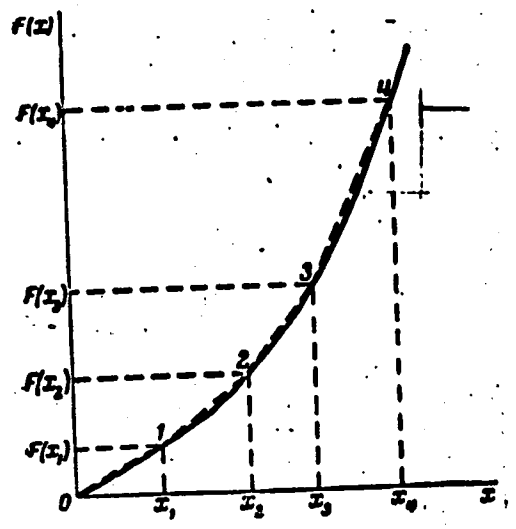

Fig. 1

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L 18603-65

ACCESSION NR

Use of analog computers for the study of reaction kinetics

SOURCE: Zhurnal ... khimii ... 38, no. 8 ...

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

L 18603-65
ACCESSION NR: AP4044444

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut [illegible]

SUBMITTED: 10Nov63 ENCL: 00

SUB CODE: OP, GC NO REF SOV: 006

Card 2/2

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

PANTAYEV, Nikolay Fedorovich; DIANOV, Vladimir Gavrilovich; BIRYUKOV, V.

[Principles of the theory of automatic control and automatic controllers] Osnovy teorii avtomaticheskogo regulirovaniia i avtoreguliatory. Moskva, Nedra, 1965. 344 p. (MIRA 18:9)

1. Spetsial'noye konstruktorskoye byuro avtomatizatsii neftepererabotki i neftekhimii (for Biryukov).

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

KARPUSHINA, Valentina Yakovlevna; DATLIN, S.V., otv. red.;
BIRYUKOV, V.V., red.

Burundi. Moskva, Nauka, 1965. 86 p. (MIRA 18:9)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BELOZERSKIY, S.S.; GUN, R.B.; BIRYUKOV, V.V.; KOGAN, Yu.S.

New flow diagrams for the automatic control of simple rectification columns. Nefteper. i neftekhim. no.5:43-45 '65. (MIRA 18:7)

1. Spetsial'noye konstruktorskoye byuro po avtomatike v neftepererabotke i neftekhimii.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.V.; KAFAROV, V.V.

Mathematical models of vapor-liquid exchangers with variable vapor pressure. Khim. prom. 42 no.9:696-698 S '65.
(MIRA 18:9)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

GUN, R.B.; BIRYUKOV, V.V.; BOLDOVA, I.P.; YATSKEVICH, G.L.

Automatic control of an assembly of a regeneration unit for the adsorption purification of liquid paraffins. Mash. i neft. obor. no.11:33-37 '64.

(MIRA 19:1)

1. Spetsial'noye konstruktorskoye byuro po avtomatike v neftepererabotke i neftekhimii.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

Biryukov, V.V.

BIRYUKOV, V.V.; SHEVYREV, S.A.

Constructing precast reinforced concrete earthquakeproof frames. (MIRA 11:1)
Stroi. prom. 35 no.12:34-35 D '57.
(Earthquakes and building)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.V.

Planning and construction of buildings in the city of Alma-Ata.
Biul. Sov. po seism. no.3:130-136 '57. (MIRA 11:5)
(Alma-Ata--Earthquakes and building)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

NIKOLAYEVSKIY, G.M., kand.tekhn.nauk; BIRYUKOV, V.V., inzh.

Fork-lift cranes. Vest.mash. 41 no.8:34-38 Ag '61. (MIRA 14:8)
(Cranes, derricks, etc.)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

NIKOLAYEVSKIY, G.M.; BIRYUKOV, V.V.

Piling bridge cranes. Mashinostroitel' no.11:6-8 N '62.
(MIRA 15:12)

(Cranes, derricks, etc.)

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BIRYUKOV, V. V.

Bracket cranes used in machinery plants. Mashinostroitel' no.12:10-11 D '62. (MIRA 16:1)

(Cranes, derricks, etc.)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

GUN, R.B.; BIRYUKOV, V.V.

New cascade system for controlling the performance of the vacuum furnace. Neftianik 8 no.2:26-27 F '63. (MIRA 16:10)

1. Sotrudniki Spetsial'nogo konstruktorskogo byuro avtomatizatsii neftepererabotki i neftekhimii.

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.V.

Drawing a step scale when surveying by eye. Geog. v shkole 26 no.5:60-61 S-O '63. (MIRA 16:11)

1. Krymskiy gosudarstvennyy pedagogicheskiy institut imeni M.V. Frunze.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, Vladimir Vasil'yevich; KUZNETSOV, P.G., ved. red.; BARATOV, A.N., kand. tekhn. nauk, red.; TKACHENKO, L.K., tekhn. red.

[Brigade-type piling cranes and special-purpose piling devices in storerooms of industrial enterprises; survey of foreign equipment] Krany-shtabelery mostovogo tipa i spetsial'nye shtabeliruiushchie ustroistva na skladakh promyshlennykh predpriiatii; obzor zarubezhnoi tekhniki. Moskva, GOSINTI, 1962. 20 p. (Tema 8) (MIRA 17:4)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

ARABADZHYAN, A.Z., otv. red.; TEVIKNEL, M.A., otv. red.; BIRYUKOV, V.V., red.

[Economic conditions of the Asian countries in 1962] Ekonomicheskoe polozhenie stran Azii v 1962 g. Moskva, Nauka, 1964. 273 p. (MIRA 17:11)

1. Akademiya nauk SSSR. Institut narodov Azii.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

GORODNICHIY, A.F.; BIRYUKOV, V.V., redaktor; UDALOV, A.G., tekhnicheskiy redaktor.

[Collection of production norms and wage rates (N i R); for paying construction workers within the Ministry of Agriculture of the U.S.S.R.] Sbornik proizvodstvennykh norm i rastsenok (N i R); dlia rascheta s rabochimi na stroikakh v sisteme Ministerstva sel'skogo khoziaistva SSSR. Izd. 4-e, dop. Moskva, Izd-vo Ministerstva Sel'skogo khoziaistva SSSR. Izd. 4-e, dop. Moskva, Izd-vo Ministerstva sel'skogo khoziaistva SSSR, 1954. 435 p. [Microfilm] (MIRA 8:2)

1. Russia (1923- U.S.S.R.) Ministerstvo sel'skogo khozyaystva. Glavnoye upravleniye kapital'nogo stroitel'stva. Normativno-issledovatel'skaya stantsiya.
(Building--Accounting) (Wages)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

GERASIMOV, D.S., sostavitel'; BESHENOV, A.V., redaktor; BIRYUKOV, V.V., redaktor; PECHENKIN, I.V., tekhnicheskiy redaktor

[Collection 25-V of departmental norms and wages for assembling machines, equipment and power apparatus for stock farms] Sbornik 25-V vedomstvennykh norm i rastsenok dlia rascheta s rabochimi za montazh mashin, oborudovaniia i energeticheskikh ustanovok na zhivotnovodcheskikh fermakh. Moskva, Izd-vo Ministerstva sel'skogo khoziaistva SSSR, 1956. 271 p. (MLRA 10:1)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye vodnogo khozyaystva. Normativno-issledovatel'skaya stantsiya.
(Farm equipment)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

Biryukov, V.V.

POLOVENKO, Ivan Savvich, kand.tekhn.nauk; BIRYUKOV, V.V., red.; SAYTANIDI, L.D., tekhn.red.

[Potentials for increasing labor productivity on collective and state farms] Reservy povysheniia proizvoditel'nosti truda v kolkhozakh i sovkhozakh. Moskva, Izd-vo M-va sovkhozov SSSR, 1957. 55 p. (MIRA 11:2)

(Labor productivity) (Farm management)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.V.; SURENYAN, E.S.

Electrified section on single-phase current of industrial frequency. Zhel.dor.transp. 39 no.7:44-49 Jl '57. (MLRA 10:8)

1.Glavnyy inzhener Moskovsko-Kursko-Donbasskoy Dorogi (for Biryukov). 2.Glavnyy inzhener sluzhby elektrifikatsii i energeticheskogo khozyaystva dorogi (for Surenyan).
(Electric railroads)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

SAMOKHVALOV, Valerian Aleksandrovich; USHAKOV, S.S., kand.tekhn.nauk, retsenzent; BIRYUKOV, V.Ya., inzh., retsenzent; GUBAREVA, N.T., red.; USENKO, L.A., tekhn.red.

[Technical innovations in railroad transportation] Tekhnicheskaia rekonstruktsiia zheleznodorozhnogo transporta. Moskva, Vses. izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia, 1961. 43 p. (MIRA 14:6)

(Railroads)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, V.Ye.; VINNICHENKO, N.G., kand.ekonom.nauk.

More freight to be carried for each ruble of capital assets. Zhel.dor. transp. 44 no.12:20-25 D '62. (MIRA 15:12)

1. Glavnyy inzh. Moskovskoy dorogi (for Biryukov)
(Railroads—Freight) (Railroads—Cost of operation)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, Ye. A.

10(3); 1(2); 1(9) PHASE I BOOK EXPLOITATION SOV/2538

Moscow. Aviatsionnyy institut imeni Sergo Ordzhonikidze

Issledovaniya v oblasti teoreticheskoy i prikladnoy aerogidrodinamiki; sbornik statey (Research in Theoretical and Applied Aero-and Hydrodynamics ; Collection of Articles) Moscow, Oborongiz, 1959. 92 p. (Series: Its: Trudy, vyp. 111) 2,650 copies printed.

Ed. (Title page): N.S. Arzhanikov, Honored Worker of the RSFSR in Science, Professor; Ed. (Inside book): A. S. Ginevskiy, Candidate of Technical Sciences; Ed. of Publishing House: E. A. Shekhtman; Tech. Ed.: V.I. Oreshkina; Managing Ed.: A. S. Zaymovskaya, Engineer.

PURPOSE: This collection of articles is intended for scientific workers, engineers, and students of advanced specialized courses.

COVERAGE: This collection of six papers is concerned with the aerodynamics of wings and shrouded propellers, hydrodynamic lubrication of bearings, and such fundamental problems as the viscosity of fluids and pressure losses due to local drags.

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rotational velocity, the entire space between journal and bearing being assumed to be filled by the lubricant. References: 4 Soviet.

4. Shaydakov, V.I., Engineer. Aerodynamic Investigations of a "Shrouded-Propeller" System for Hovering 41
This article attempts to obtain a theoretical solution for the load-supporting characteristics of a shrouded propeller. The paper is of great practical interest because a shrouded rotor-propeller is both the load-carrying and propelling element of a new type of aircraft--the so-called "flying platform". Aerodynamic investigations made by F.P. Kurochkin, Candidate of Technical Sciences at MAI are mentioned.

5. Levkoyeva, N.V., Engineer. On the Problem of Determining Pressure Losses Due to Local Drags 71
This paper presents a critical synopsis of current knowledge regarding pressure losses due to local drags in aircraft hydraulic systems. References: 17 Soviet, 5 German, 2 English, 1 French. 84

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6.. Reshetnikova, A.D., Candidate of Technical Sciences. Variation of the Viscosity of Certain Fluids With Pressure 85

The results presented in this paper were obtained in the course of an investigation of the solubility of air in various working fluids used in aircraft hydraulic systems. This phase of the work is an extension of the research started by Candidate of Technical Sciences, I.M. Krasov. References: 4 Soviet, 1 translation from English.

AVAILABLE: Library of Congress

IS/fal
11-3-59

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, Ye.A. (Moskva)

Beveling of a flow behind an arrow-shaped vortex of a finite span during unsteady motion. Prikl. mat. i mekh. 23 no.3:583-584 My-Je '59. (MIRA 12:5)
(Fluid dynamics)

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26.1200

24522
S/147/61/000/002/003/015
E031/E113

AUTHOR: Biryukov, Ye.A. (Moscow)

TITLE: The theoretical determination of the oscillatory motion of a winged rocket

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, 1961, No.2, pp. 3-16

TEXT: It is assumed that the wings are at a fixed angle with respect to the fuselage centre line, that the elevators are fixed and that the eccentricity of the thrust is constant. In order to solve the problem the following restrictions are imposed: 1) the angle of attack and the inclination of the velocity vector are small; 2) the aerodynamic force and moment derivatives with respect to angle of attack and angular velocity are independent of the velocity and the drag is constant; 3) the tangential component of the weight is ignored; 4) the mass, centre of gravity and thrust are constant while the motor is running; 5) rotation about the longitudinal axis is absent; 6) the eccentricity of the reaction forces is independent of the time; 7) damping due to variation in angle of attack with time can be

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neglected. The equations of motion are transformed by eliminating θ, the angle between the velocity vector and the horizontal, introducing the new variable s, the distance along the trajectory and setting $W = aV$, where a is the angle of attack of the rocket and V its velocity. The result is a second order differential equation for W with constant coefficients and a variable right hand side. This equation is first applied to the case of a winged rocket with motor burning. Assuming that the drag is much less than the thrust, the velocity depends linearly on the time. Considering first the static stability of the rocket, in the stable case the particular integral is obtained by the method of variation of parameters. The integrals which occur are reduced by integrating by parts and using tables. However, an approximation is described which avoids reference to tables. Returning to the equations of motion, we can integrate the equation for θ, now that a is known. Then the motion of the centre of gravity can easily be derived. An approximate analysis of the statically unstable case is given. The problem when the motor is switched off is briefly considered, both in the stable and in the unstable case.

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24522

The theoretical determination of S/147/61/000/002/001/015
E031/E113

There are 4 references: 2 Soviet and 2 English. The English language references read as follows:

Ref.2: R.E. Bolz. A note on the approximate plane motion during the burning period of rocket-propelled missiles launched at small angles of yaw from aircraft. Journal of the Aeronautical Sciences, 1950, II, Vol.17, No.2, pp. 114-120.

Ref.3: T.W. Oswald. Dynamic behaviour during accelerated flight with particular application to missile launching. Journal of the Aeronautical Sciences, 1956, VIII, Vol.25, No. 8, pp. 785-791.

SUBMITTED: August 20, 1960

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, Ye.I.; GRIGOR'YEV, O.I.; KUZNETSOV, B.S.; SHIMANSKAYA, N.S.

Decay of Nd^{140} and Pr^{140}. Izv.AN SSSR.Ser.fiz. 24 no.9: 1135-1144 S '60. (MIRA 13:9)
(Neodymium--Decay) (Praseodymium--Decay)

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8765

S/048/61/025/001/019/031
B029/B060

24.6720

AUTHORS: Biryukov, Ye. I., Grigor'yev; O. I., Kuznetsov, B. S., Shimanskaya, N. S.

TITLE: Decay of Dy^{159}

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, No. 1, 1961, 109-110

TEXT: The authors studied the electromagnetic radiation of Dy^{159} ($T_{1/2}$ = 144 days) arising from the irradiation of a tantalum target by Mev protons by means of a spectrometer with proportional counter and a scintillation gamma spectrometer. The enclosed figure shows the spectrum of the electromagnetic radiation of Dy^{159} in the rarge of 15 to 60 kev, taken with a filter of 130 mg cm^{-2} Al. The ratio between intensities of 58-kev gamma radiation and the KX radiation of Dy (44.5; 50.4 kev) is $I_{KX}/I_{\gamma 58}$ = 53. The contribution of the nonconverted 58-kev gamma radiation amounts to 6.1%, which is also in agreement with the data

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Decay of Dy^{159}

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B029/B060

relative to gamma decay of Gd^{159}. Apart from the $\gamma 58$ line, a weak line with an energy of 350 kev was also observed (Ref. 2). The intensity of this line amounts to 2.10^{-5} quanta per decay event. Shorter wave lines in the energy range up to 2 Mev were no more observed, or at least not any such with an intensity exceeding 10^{-4} to 10^{-5} quanta per decay event. Simultaneous measurements of the two Dy^{159} sources in the 4π scintillation counter and in the 4π gas counter gave the following ratios between the intensities of the LX and KX radiation and the intensities of the corresponding LX - LX and KX - KX coincidences:

$$\frac{I_{KX}}{I_{KX-KX}} = 6.56\pm0.18, \quad \frac{I_{LX}}{I_{LX-LX}} = 48.1\pm4.1, \quad \frac{I_{KX-KX}}{I_{LX-LX}} = 37.1\pm5.8, \quad \frac{I_{LX}}{I_{KX}} = 0.21\pm0.01.$$

One may calculate therefrom the ratio L_1/K_1 for the transition to the first excited 58-kev level of Tb^{159} and the amount $\mathcal{H}$ of the bifurcation. If the value $\bar{\omega} = 0.18\pm0.02$ is assumed for the L fluorescence yield of Tb, one obtains $L_1/K_1 = 0.58$ and $\mathcal{H} = 0.32\pm0.08$. The article under consideration is the reproduction of a lecture delivered at the 10th All-Union Conference on Nuclear Spectroscopy, which took place in Moscow

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

Decay of Dy^{159}

from January 19 to 27, 1960. There are 1 figure and 3 non-Soviet-bloc references.

ASSOCIATION: Radiyevyy institut im. V. G. Khlopina Akademii nauk SSSR (Radium Institute imeni V. G. Khlopin, Academy of Sciences USSR)

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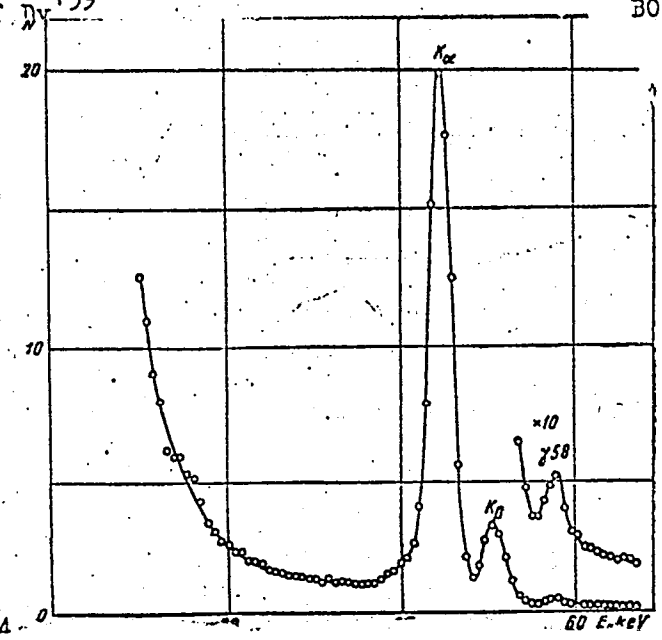
Decay of Dy^{159}



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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

S/048/62/026/002/008/032
B101/B102

AUTHORS: Biryukov, Ye. I., and Shimanskaya, N. S.

TITLE: K/β^+ ratio for Pr^{140}

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 2, 1962, 215 - 216

TEXT: A direct measurement was made of K/β^+ of a Pr^{140} preparation obtained from the reaction $Pr^{141}(n,2n)Pr^{140}$. Pr_2O_3 was applied in a thin layer (1.3 mg/cm^2) to a polyethylene film, and bombarded with 14-Mev neutrons (intensity 10^{10} neutrons$\cdot cm^{-2}\cdot sec^{-1}$). Check tests showed that the emission from polyethylene and oxygen was negligibly small. K/β^+ was determined with a 4π scintillation gamma spectrometer with 40·40 cm CsI(Tl). For measuring the annihilation radiation spectrum, the source was shielded with a lead filter (1000 $mg\cdot cm^{-2}$) and placed into a channel (6 mm in diameter) bored through the crystal axis. The K-radiation

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BIRYUKOV, Ye.I.; KUZNETSOV, B.S.; SHIMANSKAYA, N.S.

Mean energy of the β -spectrum of Y^{90}. Zhur.eksp.i teor.fiz. 41 no.1:22-23 Jl '61. (MIRA 14:7)

1. Radiyevyy institut AN SSSR.
(Beta rays—Spectra) (Yttrium—Isotopes)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, Ye.I.; SHIMANSKAYA, N.S.

Decay of Nd^{141}. Izv. AN SSSR. Ser. fiz. 27 no.11:1402-1407 N '63. (MIRA 16:11)

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BIRYUKOV, Ye.I.; NOVIKOV, V.T.; SHIMANSKAYA, N.S.

Decay of Pr^{139}. Izv. AN SSSR. Ser. fiz. 27 no.11:1408-1411 N '63. (MIRA 16:11)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, Ye.I.; MARTYNOV, Yu.S.; NOVIKOV, V.T.; SHIMANSKAYA, N.S.

Mean energy of the Pr^{142} β-spectrum. Zhur.eksp.i teor.fiz 46 no.6:2242-2243 Je '64. (MIRA 17:10)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, Ye. I.; NOVIKOV, V. T.; SHIMANSKAYA, N. S.

"Concerning the Decay Chain $_{58}Ce^{134} \rightarrow {}_{57}La^{134} \rightarrow {}_{56}Ba^{134}$."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22 Feb 64.

Radiyevyy Inst (Radium Inst)

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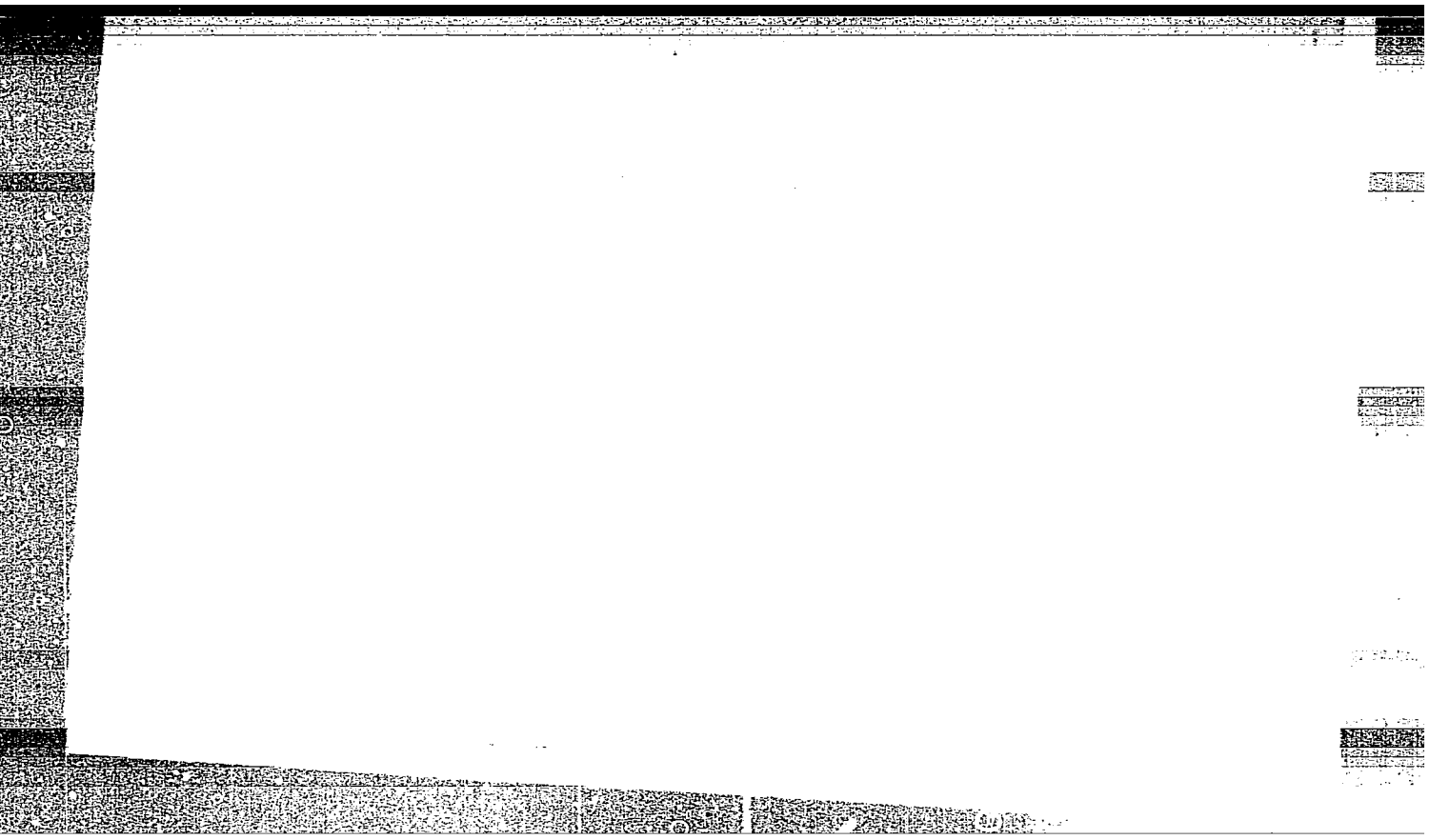

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EWP(m)/EWT(d)/EWT(l) IJP(c) WW

ACC NR: AP6029779 SOURCE CODE: UR/0294/44/004/004/0540/0551

AUTHOR: Buleyev, N. I. (Moscow); Yel'tsova, L. D. (Moscow); Biryukova, G. P. (Moscow)

ORG: None

53
B

TITLE: Calculating the temperature field of a turbulent fluid flow in the initial thermal section of a circular tube

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 4, 1966, 540-551

TOPIC TAGS: turbulent flow, fluid flow, temperature distribution

ABSTRACT: The authors calculate the temperature fields in the initial thermal stabilization section during turbulent fluid flow in an infinitely extended circular tube. Longitudinal thermal overflows through the walls of the tube and through the liquid are considered in solving the problem. Temperature fields in the fluid flow and in the wall of the tube are calculated for a wide range of variation in the Reynolds and Prantdl numbers. The thermal flux $g(x)$ on the external surface of the tube is given assuming that the tube is heated from the outside in the middle section for a finite length of the order of 30 tube diameters. It is further assumed that the velocity field in the flow is stationary and that the physical properties of the fluid and thermal conductivity of the tube material are constant. The results of the calculations are given in a series of tables and graphs. Analysis indicates that the wall-fluid tem-

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ACC NR: AP6029779

perature drop in the heated section stabilizes with an accuracy of 5% within 16 diameters from the initial heating section. Longitudinal thermal overflow through the walls of the tube is insignificant for liquid metals and water but reaches considerable values for gas flow due to the higher values of the parameter λ_2/λ_1. The length of the initial thermal section in flows of various fluids increases with the Reynolds number from 0 to 3000 reaching a maximum at this point with a gradual decrease as Re is increased further. Orig. art. has: 8 figures, 4 tables, 24 formulas.

SUB CODE: 20/ SUBM DATE: 05Jan65/ ORIG REF: 008/ OTH REF: 004

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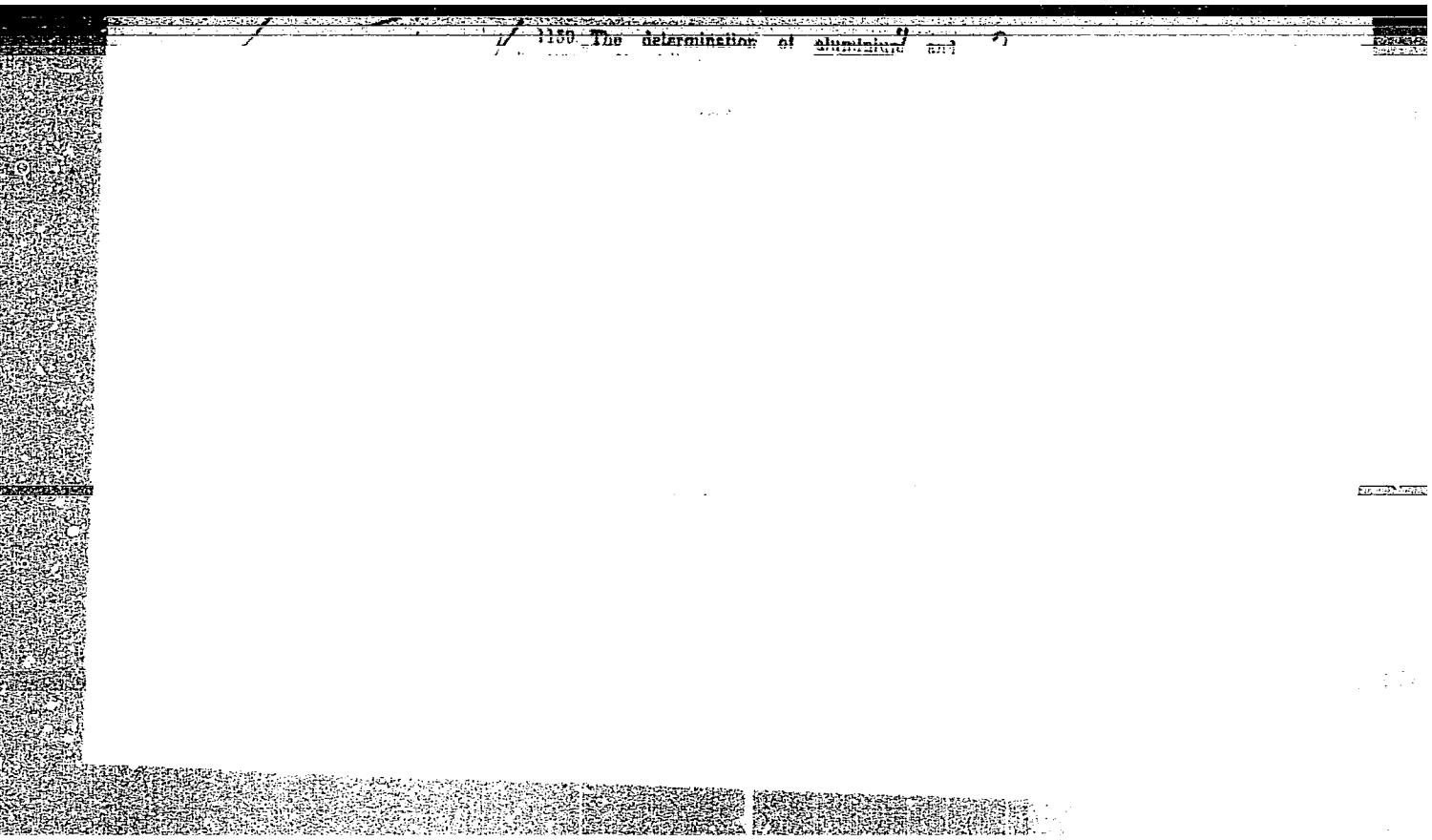

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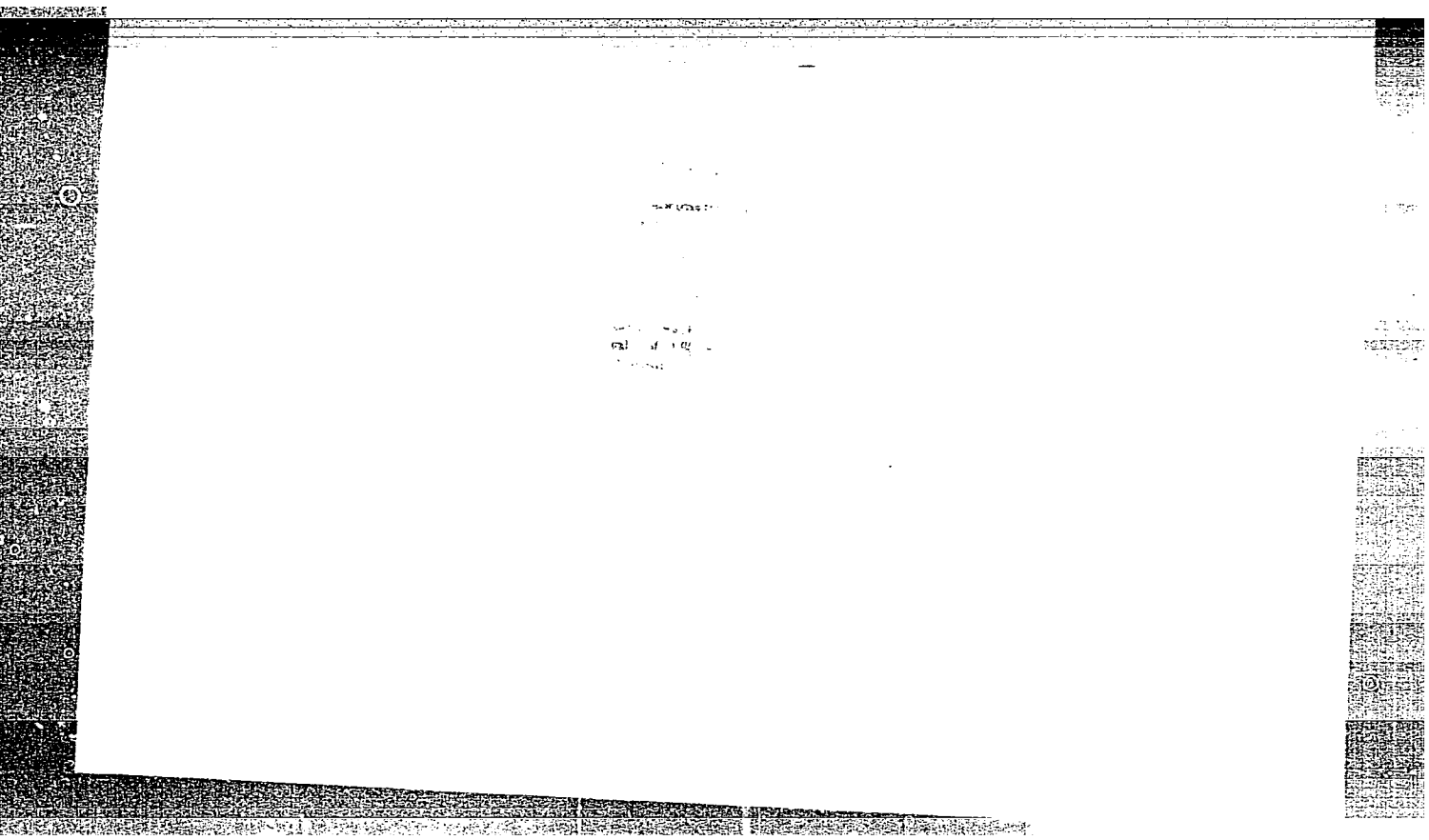

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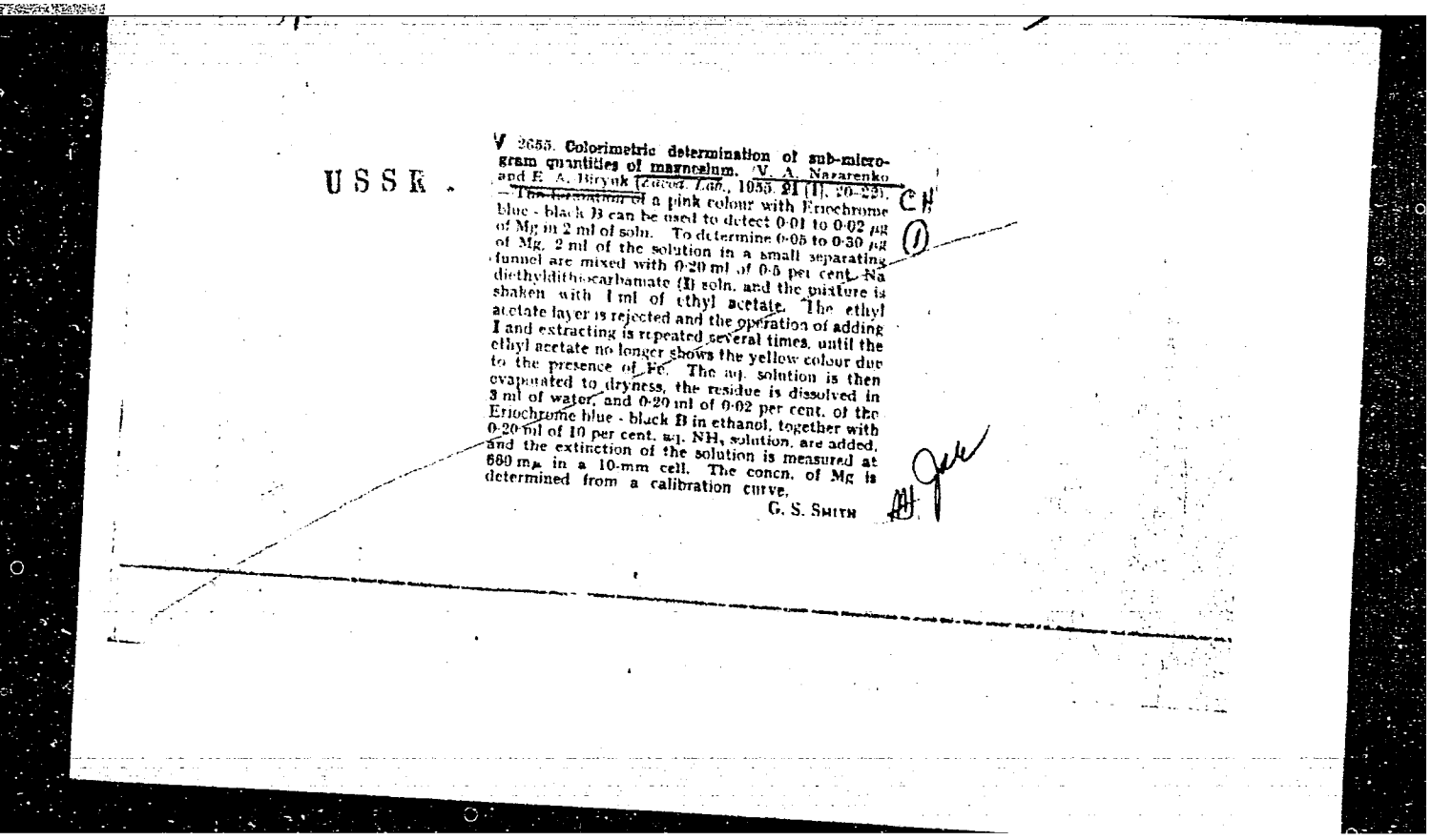

USSR .

V 2655. **Colorimetric determination of sub-microgram quantities of magnesium.** V. A. Nazarenko and E. A. Biryuk (*Zavod. Lab.*, 1955, **21** (1), 20–22). — The formation of a pink colour with Eriochrome blue - black B can be used to detect 0·01 to 0·02 μg of Mg in 2 ml of soln. To determine 0·05 to 0·30 μg of Mg, 2 ml of the solution in a small separating funnel are mixed with 0·20 ml of 0·5 per cent. Na diethyldithiocarbamate (I) soln. and the mixture is shaken with 1 ml of ethyl acetate. The ethyl acetate layer is rejected and the operation of adding I and extracting is repeated several times, until the ethyl acetate no longer shows the yellow colour due to the presence of Fe. The aq. solution is then evaporated to dryness, the residue is dissolved in 3 ml of water, and 0·20 ml of 0·02 per cent. of the Eriochrome blue - black B in ethanol, together with 0·20 ml of 10 per cent. aq. NH_3 solution, are added, and the extinction of the solution is measured at 580 mμ in a 10-mm cell. The concn. of Mg is determined from a calibration curve.

G. S. Smith

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

SOV/75-13-4-12/29

AUTHORS: Nazarenko, V. A., Biryuk, Ye. A., Ravitskaya, R. V.

TITLE: The Determination of Indium Admixtures in Germanium (Opredeleniye primesi indiya v germanii)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol. 13, Nr 4, pp. 445-448 (USSR)

ABSTRACT: The authors of the present paper investigated various color reactions sensitive to indium. They found the reaction with diphenyl carbazone best suited for the quantitative determination of indium (Ref 2). Diphenyl carbazone with indium in a weakly acid solution yields a violet coloration; no precipitation takes place with larger amounts of indium. In the absence of indium the solution has a yellow-brown color. The optimum p_H-value for this determination is at p_H6. At p_H5-6 the foreign ions of Mg, Ca, Al, Cr(III), Ti, Mn(II), U(VI), Cd, Pb, Bi, Sn(IV), Sb, As, Ag, Ge, and Ta do not disturb the determination if their excess is not greater than 10-fold. Gallium yields the same reaction as indium, however, with a considerably lower sensitivity. Fe(III) under the conditions

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of the determination does not show a reaction with diphenyl carbazone, it masks, however, indium almost completely. This disturbing influence can, however, be removed by thiourea. There a p_H of 5,6 is necessary (hydrochloric acid-pyridine-buffer). At p_H6 no means for the masking of iron could be found. Thiourea besides iron also masks copper and reduces the disturbing influence of zinc. In order to exclude the disturbing influence of iron it is useful to work at p_H5,6. At this p_H the intensity of the color is by 50% weaker than at p_H6, the specific character is, however, greater. The maximum of the absorption is at 530 mμ; at this wave length, however, also the reagent still absorbs noticeably. Therefore the indium is determined at 570 mμ, where the reagent does no longer absorb, while the absorption of the complex is only little below the normal value. Solutions with an indium content of 0,4 - 5γ follow Beer's law. The color of the solutions is constant only for 15 minutes as the complex then coagulates. Indium traces in germanium can be determined by means of this method when the germanium is evaporated in the form of tetrachloride. Then indium is obtained as a quantitative residue. In the analysis

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The Determination of Indium Admixtures in Germanium SOV/75-13-4-12/29

of impurified GeO_2 and also of metallic germanium the residue does still contain disturbing metals; therefore the indium must be separated. This is achieved by the extraction with ether from hydrogen bromide acid solution. In order to prevent the iron being co-extracted $TiCl_3$ is added. Because of the low capacity of the hydrochloric acid-pyridine-buffer the solutions to be analyzed must be as neutral as possible. In order to prevent that in the boiling down of the acid solutions to dryness a hydrolysis of the indium salts takes place a little sodium chloride is added. Thereby the hydrolysis is prevented as natural chloroindate is formed. The plotting of the calibration curve, the preparation of the reagents as well as the carrying out of the determination of indium in germanium are described in all details. The sensitivity is then 2.10^{-5}%; this determination is well suited for the indium traces in germanium. There are 4 figures, 3 tables, and 3 references, 2 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR, laboratoriya v g. Odesse (Institute for General and Inorganic

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The Determination of Indium Admixtures in Germanium SOV/75-13-4-12/29

Chemistry, AS Ukr SSR, Odessa Laboratory)

SUBMITTED: June 16, 1957

1. Indium--Determination 2. Germanium--Analysis 3. Diphenyl carbazone--Chemical reactions 4. Photometry

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

5(2)

AUTHORS: Biryuk, Ye. A., Nazarenko, V. A. SOV/75-14-3-7/29

TITLE: Use of Trioxyfluorone Derivatives in Photometric Analysis for the Determination of Scandium (Primeneniye proizvodnykh trioksifluorona v fotometricheskom analize opredeleniya skandiya)

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 3, pp 298-302 (USSR)

ABSTRACT: The derivatives substituted in position 9 of the 2,3,7-trioxy--6-fluorone were investigated with respect to their applicability in photometric recording. The synthesis of the derivatives was carried out from triacetyl-oxy-hydroquinone and the corresponding aldehyde. Table 1 gives the color reactions of the derivatives obtained with scandium. Only the 9-propyl derivative proved to be suitable if acetyl acetone is added for masking germanium, lead, antimon etc. The determinations were carried out with the spectrophotometer SF-4. Figures 1 - 5 show the diagrams of the light absorption, color intensity, molar ratio, and optical density in dependence on the scandium concentration. Table 3 gives the equilibrium constants. The molar extinction coefficient was found to be 32 000 for 530 mμ. Table 4 presents the analysis results obtained in the

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

Use of Trioxyfluorone Derivatives in Photometric Analysis for the Determination of Scandium SOV/75-14-3-7/29

presence of Al, Y, La, Ce and Th. 9-Propyl-trioxyfluorone permits the photometric determination of 0.04 - 2γ/ml scandium in a solution 1 : 5.10^7. The solutions of the scandium-complex compounds obey Beer's law. There are 5 figures, 4 tables, and 8 references, 2 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR, laboratorii v Odessa (Institute of General and Inorganic Chemistry of the Academy of Sciences of the UkrSSR, Laboratories in Odessa)

SUBMITTED: January 25, 1958

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

5(2)

AUTHORS: Nazarenko, V. A., Biryuk, Ye. A. SOV/32-25-1-16/51

TITLE: Determination of Bismuth, Lead and Cadmium in Vanadium and Niobium (Opredeleniye vismuta, svintsa i kadmiya v vanadii i niobii)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 1, pp 28-30 (USSR)

ABSTRACT: A method is described, which allows to analyze a pure metal on several admixtures simultaneously. It is based on the extraction of admixtures in the form of diethyl-dithio-carbamates. Bismuth is then determined according to the iodide-ketone method, lead and cadmium with diphenyl thiocarbazone. When treating chloroform extracts of carbamates from an alkaline medium with 0.2 n hydrochloric acid, lead and cadmium pass to the aqueous phase, while the bismuth compound remains in the chloroform. A new variant of the iodide method was devised for the bismuth determination; it is based on the extraction of the bismuth-iodide complex compound with methyl isobutyl ketone (Ref 3). Thiourea was used for the masking of copper, so that under the conditions given up to 100 γ copper and 10 γ antimony can be present in the determination of 1 - 5 γ bismuth.

Card 1/2

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

Determination of Bismuth, Lead and Cadmium in Vanadium and Niobium

If the blank test sample is corrected appropriately, lead or cadmium can be determined up to 0.2γ, and bismuth up to 1γ. In the niobium determination only lead and cadmium can be determined simultaneously, as niobium enters solution. The various analysis procedures are mentioned.
There are 1 table and 4 references, 2 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk USSR (Institute of General and Inorganic Chemistry of the Academy of Sciences, UkrSSR)

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86161
S/075/60/015/003/016/033/XX
B005/B066

5.5300 2209

AUTHORS: Nazarenko, V. A. and Biryuk, Ye. A.

TITLE: A Sensitive and Selective Photometric Method of Determining Titanium by Means of Disulfo-phenylfluorone

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol. 15, No. 3, pp. 306 - 310

X

TEXT: Derivatives of 2,3,7-trihydroxy-6-fluorone which are substituted at C_9, give color reactions with titanium in weakly acid solution (Ref.1). Most of these derivatives however hydrolyze at high pH, and precipitate. By introducing sulfo groups into the molecule of trihydroxy-fluorone the tendency toward hydrolysis may be eliminated and the sensitivity of the color reactions is increased. Such a highly sensitive reagent for the photometric determination of titanium is 9-(2',4'-disulfo-phenyl)-2,3,7-trihydroxy-6-fluorone (I), the synthesis of which has already been described earlier (Ref.4).

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A Sensitive and Selective Photometric Method of Determining Titanium by Means of Disulfophenylfluorone

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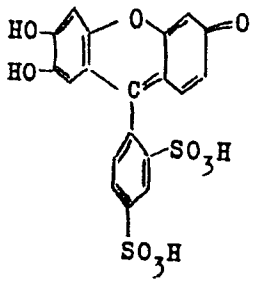
B005/B066



(I)

Of five derivatives of trihydroxy fluorone with different substituents R at C_9 (R = propyl-; trichloro-methyl-; phenyl-; o-hydroxy-phenyl-; o-nitrophenyl-; 2,4-disulfophenyl-;) the above reagent has the highest sensitivity for the titanium determination (Table 1). The authors of the present paper determined the optimum conditions for the titanium determination with an alcoholic solution of disulfophenyl trihydroxy fluorone. The optimum pH value for the determination lies at 6 and is best brought about by means of a pyridine-hydrochloric acid buffer solution. At this pH the

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A Sensitive and Selective Photometric Method of Determining Titanium by Means of Disulfophenylfluorone

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B005/B066

molar extinction coefficient of the violet complex solution has the value 108000. The optical densities of solutions of the complex were measured in a ФМС-5Е (FMS-56) photometer with a color filter permeable to light of the wave length 570 mμ. The absorption curves of solutions of the pure reagent and of the titanium complex at pH 6 were taken in a СФ-4 (SF-4) spectrophotometer. The absorption maximum of the complex lies at 570 mμ, where the pure reagent absorbs to a very small extent (Fig.2). The composition of the complex was investigated by two ways: by the method of isomolar series and by the method of molar proportions. Titanium was found to react with disulfophenyl trihydroxy fluorone in a molar ratio of Ti : R = 1 : 2. The solutions of the complex obey Beer's law (Fig.6). The least titanium quantity determinable is 0.01 μg/ml. The maximum coloration of the solution is attained 10 minutes after the reagent is added, and remains stable for 12 hours. The disturbing influence of germanium, tin(IV), antimony(III), and molybdenum may be eliminated by masking with thioglycolic acid; zirconium, aluminum, and iron may be masked with complexon III. The optimum quantities of these masking substances are 0.3 ml 10% thioglycolic acid, 0.1-0.3 ml of a 10% complexon solution for

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A Sensitive and Selective Photometric Method of Determining Titanium by Means of Disulfophenylfluorone

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5 ml solution. The authors used the described method to determine traces of titanium in pure germanium and silicon. After dissolution of the sample most of the germanium is distilled off in the form of tetrachloride, whereas in the case of silicon most of it is distilled off as silicon tetrafluoride. Titanium is determined in the residue by the method described. In this way up to $5 \cdot 10^{-6}$% titanium may be determined in silicon or germanium. The course of the determination is described in detail, and Table 3 shows some of the results obtained. The present paper has been presented at the section of analytical chemistry of the VIII Mendeleyevskiy s"yezd po obshchey i prikladnoy khimii (VIII Mendeleyev Congress on General and Applied Chemistry). There are 6 figures, 3 tables, and 6 references: 5 Soviet and 1 Indian.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR, laboratorii v Odesse (Institute of General and Inorganic Chemistry AS UkrSSR, Laboratories in Odessa)

SUBMITTED: April 7, 1959

Card 4/4

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

S/078/62/007/012/010/022
B144/B180

AUTHORS: Nazarenko, V. A., Lebedeva, N. V., Biryuk, Ye. A., Shustova, M.B.

TITLE: Complex compounds of multivalence metals with trioxyfluorones

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 12, 1962, 2731-2738

TEXT: The complex formation between GeO_2, $ZrOCl_2$ or $SbCl_3$ and phenyl fluorone and between $Sc_2(SO_4)_3$ and propyl fluorone was studied spectroscopically in acid media after stabilization with gelatine to ascertain whether the metal ion substitutes two H atoms in the diphenol or one H atom in the o-hydroxyquinone. A new scheme, based on the solubility product, is given for the evaluation of the spectrophotometric data; this was necessary because of the low solubility of the complexes. The complex formation with Zr was studied in 0.2 - 0.8 N HCl and showed that only a 1:2 complex forms (optimum 0.2 - 0.3 N HCl). This was confirmed by both the isomolar series and the molar ratios. The Zr complex is thus consistent with other Me^{IV} trihydroxy fluorone complexes. A study of the change in optical density as a function of the pH showed that only one H

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atom is substituted, namely, at C_7 of the phenol group, and that a donor-acceptor bond is established with the quinone oxygen at C_6 with formation of a 5-membered ring. There are 7 figures and 4 tables.

SUBMITTED: February 26, 1962

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

S/032/62/028/004/002/026
B101/B144

AUTHORS: Nazarenko, V. A., and Biryuk, Ye. A.

TITLE: Determination of scandium by propyl fluoron

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 4, 1962, 401-406

TEXT: A photometric method is described for determining amounts of up to 0.0002% Sc in silicates, tungstites, zirconates, coal ashes, and cassiterite slags. Silicates and ashes are decomposed in HF + H_2SO_4 (1:1); tungstites, by melting with NaOH; cassiterites, by melting with Na_2O_2, and zircons with KF_2. If Th and Zr are present in large amounts, they are precipitated as iodates. Alkaline melts are dissolved in 8 N HCl. Sc is separated from accompanying elements by precipitation with KOH in the presence of H_2O_2, Fe is used as collector, and then extracted by ether in hydrochloric acid solution. Subsequently, Sc is precipitated as tartrate in the presence of Y_2O_3. The precipitate is dissolved in HCl; ammonium

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Determination of scandium...

thiocyanate is added; Sc is extracted with ether, re-extracted with H_2O, evaporated; the residue is calcined, treated with aqua regia, and dissolved in hydrochloric acid. Small amounts of disturbing elements still present are masked: Th, Zr, Al by acetyl acetone, Fe by orthophenanthroline and ascorbic acid. After adding an alcoholic solution of propyl fluoron Sc is determined by an СФ-4 (SF-4) spectrophotometer or an ФМС-56 (FMS-56) photometer at 530 mμ, or by an ФЭК-М (FEK-M) photocolorimeter and green light filter on the basis of a calibration curve. A radiometric control with Sc^{46} proved the dependability of the method. Microamounts of Sc are quantitatively precipitated as tartrate from a small solution volume (1-5 ml), also without addition of Y_2O_3. There are 2 figures, 4 tables, and 9 references: 4 Soviet and 5 non-Soviet. The reference to the English-language publication reads as follows: D. F. Peppard, G. W. Mason, J. L. Maier, J. Inorg. and Nucl. Chem., 3, 215, (1956).

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk USSR (Institute of General and Inorganic Chemistry of the Academy of Sciences UkrSSR)

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

NAZARENKO, V.A.; LEBEDEVA, N.V.; SHUSTOVA, M.B.; BIRYUK, Ye.A.

Trihydroxyflurones. Metod.poluch.khim.reak. i prepar. no. 7: 21-24 '63. (MIRA 17:4)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR, Odessa.

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L 18496-63 EPF(n)-2/EWP(q)/EWT(m)/BDS AFFTC/SSD Pu-4 JAJ/RM/WW/JD/MAY/
ACCESSION NR: AP3007374 S/0186/63/005/004/0497/0499 JG

AUTHOR: Nazarenko, V. A.; Biryuk, Ye. A.; Poluektova, Ye. N.

TITLE: Separation of small amounts of thorium from rare earth elements, iron, and aluminum on an ion-exchange resin containing a sorbed reagent

SOURCE: Radiokhimiya, v. 5, no. 4, 1963. 497-499

TOPIC TAGS: ion exchange, ion exchange resin, ion exchanger, thorium, rare earth metals, iron, aluminum, anion exchange, anion-exchanging substances, anion exchanger, anion exchange resin, AV-17, AV-17 anion exchanger, AV-17 anion exchange resin, toron, benzenearsonic acid. o-(2-hydroxy-3,6-disulfo-1-naphthylazo)-, 2-naphthol-3,6-disulfonic acid. 1-(o-arsonophenylazo)-, cation exchange, cation exchanger, reverse anion exchanger, thorium determination, thorium separation, thorium isolation, yttrium, europium, promethium, yttrium oxide, La_2O_3, aluminum chloride

ABSTRACT: A study has been made of the separation of Th from rare-earth elements, Fe, and Al by the selective adsorption of Th ions

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ACCESSION NR: AP3007374

on AV-17 anion exchanger [made from styrene, divinylbenzene, and trimethylamine (see: Zh. f. kh., v. 36, no. 11, Nov 1962, 2465-2468)] treated with "toron" (1-(o-arsonophenylazo)-2-naphthol-3,6-disulfonic acid) to form a "reverse anion exchanger" which acts as a cation exchanger toward Th only. A "reverse anion exchanger" is defined as one treated with an organic compound containing both a group reacting selectively with the ion to be separated, and an acid group (preferably a sulfo group) for attachment to the original anion exchanger. Separation of Th was carried out in a glass column 20—25 cm long and 0.8 cm in diameter. Three grams of AV-17 anion exchanger (pretreated with water and an alkali) was placed in the glass column, treated with a 0.5% toron solution, and washed with water. The Th-containing influent (20—30 ml), acidified with 0.2 g ascorbic acid (to an acidity equivalent to 0.05 N HCl), was passed through the column at a rate of 0.5 ml/min. The adsorbed Th was then eluted with 1 N HCl. The amount of Th so separated was determined by the spectrophotometric method (V. I. Kuznetsov, ZhOKh, 13, 914 (1944); S. B. Savvin, DAN SSSR, 127, 6, 1231 (1959)). After elution the anion exchanger may be used again without additional treatment with toron. Microquantities of Th (down to 1 x 10^{-4}%)

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ACCESSION NR: AP3007374

may be separated and determined in the presence of rare earths, Al, and Fe by this method. The behavior of Y, Eu, Pm, and Fe on the AV-17 "reverse anion exchanger" under the conditions described was also studied, using Y^{91}, Eu^{152}, Eu^{154}, Pm^{147}, Fe^{55}, and Fe^{59}. Tabulated data on the radioactivity of the solutions before and after they were passed through the column show that these elements are not adsorbed by the anion exchanger. The method described was used to determine Th in Y_2O_3, La_2O_3, total rare-earth chlorides, and $AlCl_3$. Orig. art. has: 1 formula and 3 tables.

ASSOCIATION: none

SUBMITTED: 08Sep62 DATE ACQ: 070ct63 ENCL: 00

SUB CODE: CH NO REF SOV: 003 OTHER: 000

Card 3/3

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

S/073/63/029/002/003/006
A057/A126

AUTHORS: Nazarenko, V. A., Biryuk, Ye. A.

TITLE: Arsenazo I as reagent for the photometric determination of scandium

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 29, no. 2, 1963, 198 - 204

TEXT: The reagent arsenazo I was first described by V. I. Kuznetsov (DAN, v. 31, 1941, 895) for the determination of uranium and rare earths. The present authors investigated this reagent for photometric determination of scandium in some natural and technical materials. The optimum pH was found to be 7.9 and was maintained by a borate buffer in further studies. The maximum light absorption of the arsenazo solution at pH 7.9 lies at 500 mμ and of the complex with scandium at 542 mμ. Thus the optimum optical density for scandium determination is at 570 mμ. The maximum colour intensity was observed at 3 - 3.5 fold excess of the reagent in relation to the scandium content in the solution (in mole/l). The colour develops in 5 min remaining unchanged for several hours. The molar absorption coefficient of the scandium complex was determined by the saturation method at 570 mμ with $1.73 \cdot 10^4$. Under optimum conditions the solutions of the scandium

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complex follow Beer's law in a wide range of concentration. Determination of the effect of the concentration of hydrogen ions on theformation of the complex showed a mean value $\log K_o = 5.41$. Scandium forms with arsenazo a 1:1 complex. The authors assume that arsenazo reacts with scandium in the quinonehydrazonic form. The scandyl ion substitutes the hydrogen of the arsone group, while the hydrazo group has a coordination bond with the quinone oxygen and nitrogen. A method for the determination of scandium at a content up from 0.001% in various materials (coal ash, granite, amphibolite, cassiterite slags, wolframite) was developed. The interfering elements are removed by the procedure described by the authors for scandium determination with propylfluorone (Zav.lab., v. 28, 1962, 401). The aqueous extract after the separation of scandium by rhodanide-ether extraction, is evaporated, the dry residue calcinated at maximum 700°C, digested with 2 ml aqua regia and evaporated, then digested with 2 ml 8 N HCl and filled up to 50 ml with 23 ml 0.1 N HCl, 0.5 ml 5%-solution of ascorbic acid, 1 ml 0.25% ortho-phenanthroline, and 0.05 M borax solution. After mixing for 20 min the density is measured at 570 mμ also of a solution prepared in the same way, but without scandium. The scandium content is determined from a calibration curve. There are 4 figures and 2 tables.

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Arsenazo I as reagent for...

S/073/63/029/002/003/006
A057/A126

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR Laboratorii v Odesse (Institute of General and Inorganic Chemistry of the AS UkrSSR, Odessa Laboratories)

SUBMITTED: September 20, 1961

Card 3/3

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

ACCESSION NR: AP4039248 S/0032/64/030/006/0651/0652

AUTHOR: Biryuk, Ye. A.

TITLE: Photometric determination of antimony admixture in gallium, indium, and thallium

SOURCE: Zavodskaya laboratoriya, v. 30, no. 6, 1964, 651-652

TOPIC TAGS: diethyldithiocarbaminic antimony extraction, pyridineiodide antimony complex, phenylfluorone antimony compound, gallium indium thallium interference, spectrophotometry, antimony

ABSTRACT: A 1-g aliquot of the metal was heated and dissolved in 6 ml of concentrated nitric acid and evaporated to dryness. The residue was dissolved in 85% formic acid and again evaporated to dryness. For antimony determination in indium and gallium the residue was next dissolved in sulfuric acid and titanium sulfate added, while for Sb determination in thallium HCl was also added. The solutions were extracted in a separatory funnel with a 1% solution of diethyldithiocarbaminic acid in chloroform. The extracts were digested with nitric, sulfuric, and formic acids, and the aqueous solution of the residue was treated with 5 ml of concentrated sulfuric acid, 0.5 g of tartaric acid, and 0.1 g of ascorbic acid. The next step consisted of adding 1 ml of a 10% KI solution and 0.6 ml of 10% pyridine. After

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standing for 15 minutes, the solution was extracted (three times) in a separatory funnel with ether, the extract was acidified with sulfuric acid, and 0.3 ml of a 1% gelatin solution and 0.3 ml of a 0.05% phenylfluorone solution were added. After standing for 30 minutes, the optical density of the solution was determined spectrophotometrically at a wavelength of 530 millimicrons. It is claimed that the method permits the determination down to 5 x 10^{-5}% antimony with an error not exceeding 8%. Orig. art. has: 1 table.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 18Jun64 ENCL: 00

SUB CODE: GC NO REF SOV: 003 OTHER: 001

Card 2/2

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUK, Ye.A.

Photometric determination of antimony impurities in gallium, indium, and thallium. Zav. lab. 30 no.6:651-652 '64
(MIRA 17:8)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.

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L [illegible] EWT(m)/T/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6010053 SOURCE CODE: UR/0032/66/032/003/0267/0269

AUTHOR: Nazarenko, V. A.; Biryuk, Ye. A.; Shustova, M. B.; Shitareva, G. G.; Vinkovetskaya, S. Ya.; Flyantikova, G. V. 54 B

ORG: Institute of General and Inorganic Chemistry, AN UkrSSR (Institut obshchey i neorganicheskoy khimii AN UkrSSR)

TITLE: Determination of impurities in tantalum

SOURCE: Zavodskaya laboratoriya, v. 32, no. 3, 1966, 267-269

TOPIC TAGS: tantalum, impurity level, photometric analysis, iron, copper, tin, lead

ABSTRACT: The photometric determination of impurities in tantalum is described. It has a sensitivity of 10^{-4}% and requires all the precautionary measures used during the analysis of high-purity metals, including the running of blank experiments under conditions of sample analysis. The photometric determination is preceded by extraction of the analyzed element (Pb, Cu, Fe, Ni, or Sn) from the tantalum sample, by extraction during the determination of tantalum in Zr, Bi, and Zn in the form of a fluortantalate complex, and by determination of chromium after separation of the tantalum by hydolysis. Lead and cadmium are determined by dithizone after extraction of the lead and cadmium (in the form of diethyldithiocarbaminates) from acid medium with chloroform. The interfering effect of other elements is eliminated by washing the extract with alkaline

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ACC NR: AP6010053

solution (pH 12) containing cyanide, tartrate, and diethyldithiocarbaminate. The rhodanide method, with extraction of the dyed complex, is used for the determination of iron. Copper is determined by dithizone. The separation of iron and copper from tantalum is made by extraction of their diethyldithiocarbaminate salts. Tin is determined photometrically with paranitrophenylfluorone after extraction of the tin from the sulfate medium with chloroform in the form of diethyldithiocarbaminate. This is made similarly to the determination of tin in niobium (N. B. Lebedeva, V. A. Nazarenko, Trudy Komissii po anaticheskoy khimii, Izd. AN SSSR, XI, 287, 1960). It is convenient to determine some impurities after separating the tantalum from them. This can be done by the extraction of the fluorotantalum complex with ketones (e.g., cyclohexanone) from its solution in HF and H_2NO_3 or H_2SO_4, while Zr, Ti, Bi, and Zn can be determined in the aqueous phase: Zr with phenylfluorone, Bi by the iodide-ketone method, and Zn with dithizone. Chromium is determined with diphenylcarbazide after separation of tantalum by hydrolysis.

SUB CODE: 11,07/ SUBM DATE: none/ ORIG REF: 008

Card 2/2 hs

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"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

ACC NR: AT6036572 SOURCE CODE: UR/0000/66/000/000/0187/0188

AUTHOR: Kakurin, L. I.; Biryukov, Ye. N.

ORG: none

28

TITLE: The problem of decalcification during hypodynamia in man as it applies to prolonged spaceflight conditions [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 187-188

TOPIC TAGS: hypodynamia, space physiology, endocrinology, decalcification, mineral metabolism, blood chemistry

ABSTRACT: Limited muscular activity (hypodynamia) causes complicated polymorphic disorders. Experimental and clinical data indicate the development of muscular atrophy, a marked decrease in resistance to physical loading, orthostatic hypotension, and lowered tolerance to chest-back accelerations. These and other disorders of the circulatory, respiratory, neuromuscular, and neuroendocrine systems are known as the "hypokinesia syndrome" or "hypokinesia sickness".

It is known that a state of weightlessness decreases the force acting on the locomotor mechanism of the living organism. All muscular masses which ordinarily work against terrestrial gravity are deactivated. Spaceflight crews are exposed to these conditions.

Card 1/2

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L 10953-67

ACC NR: AT6036572

Clinical and experimental observations of men exposed to hypodynamic conditions indicate that their calcium metabolism is altered. A noticeable increase in the calcium content of the blood and increased calcium elimination in the urine and feces has been observed. A tendency towards increased calcium mobilization in American astronauts has also been reported.

Taking into account the high physiological activity of calcium, it is likely that during pronounced decalcification a number of functional disorders related to the physiological participation of calcium will occur: in particular, cardiac muscle automatism, excitation conduction in synapses and neurons, the clotting and anticlotting state of the blood, and mineralization during bone tissue formation will be affected. At present, it has not been established whether a hypodynamia regimen will produce these complex physiological reactions related to human calcium metabolism. It is proposed that the severity of decalcification will be determined by the duration and degree of hypodynamia. Problems of prophylaxis applicable to prolonged spaceflight conditions can be successfully solved in terrestrial experiments. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

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APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"

"APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2

BIRYUKOV, Yu.; BIZUK; NOVIKOV, D.; KEVORKYANTS, A. (Moskva); TIMIROV, G. (Berezniki)

Good people. Pozh.delo 7 no.9:18 S '61. (MIRA 14:11)

1. Pozharnyy vtoroy chasti, g. Penza (for Biryukov). 2. Nachal'nik gorodskoy pozharnoy okhrany, g. Shuya (for Bizuk). 3. Komandir otdeleniya pozharnoy okhrany, Stalingrad (for Novikov). (Firemen)

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205410007-2"